

**e-Government In The Province of Nova Scotia
A Background Paper**

*Priorities and Planning Secretariat
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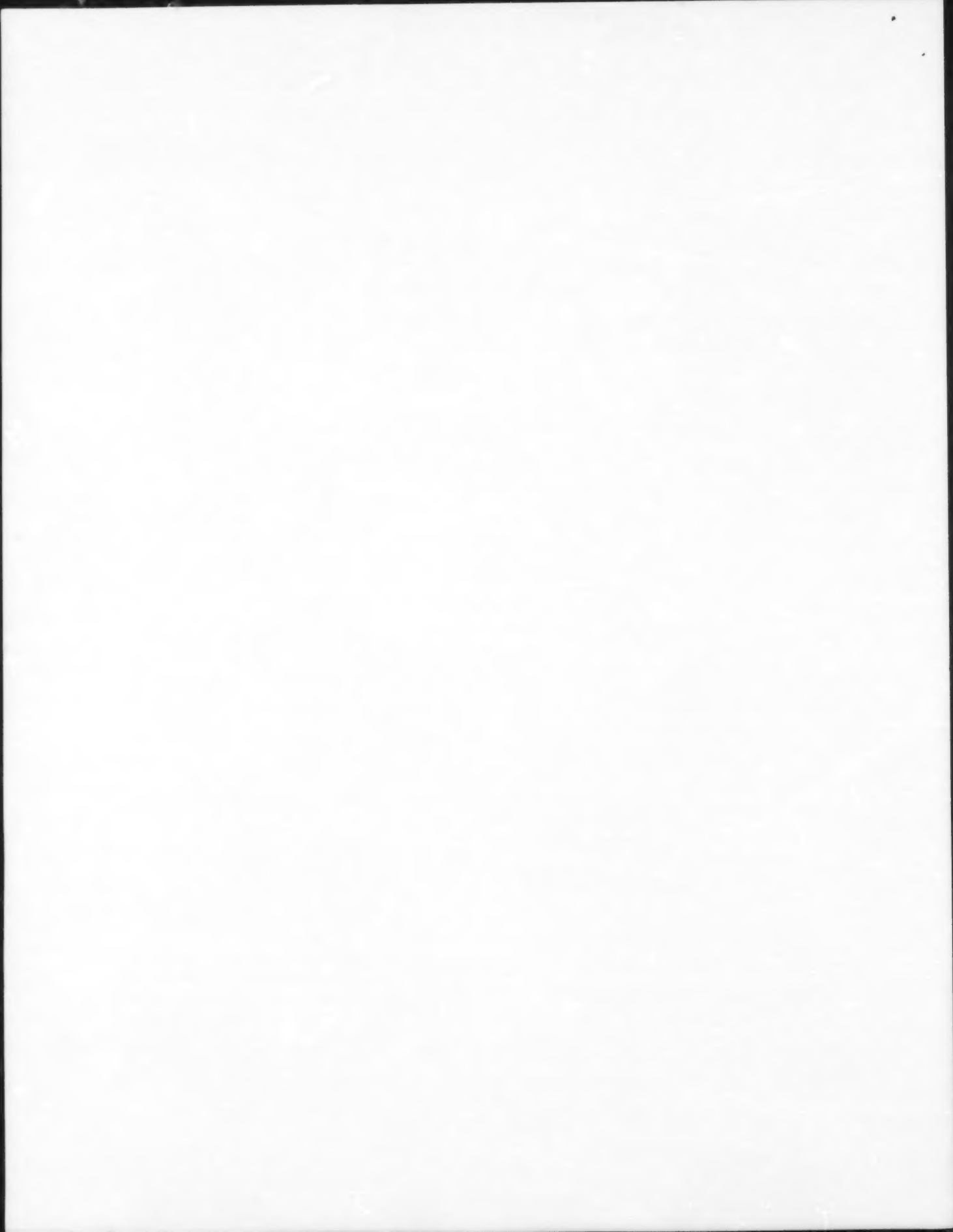


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Executive Summary

The explosive growth in electronic commerce in the recent past has fundamentally changed the nature of the economy in North America. Governments generally have been cautious in embracing any new technology; however, the application of electronic commerce technology to the delivery of government services, generally referred to as "e-Government", offers vast potential to fundamentally transform the ways in which government interacts with its constituents.

The Government of Nova Scotia already offers a broad range of services and information to its constituents electronically. However, the range of items available is uneven, incomplete, and there is no overall coordination or champion for e-Government. Similarly, there are a number of initiatives underway to promote provincial economic development through fostering a business climate that is friendly to e-technology, but once again there is a need for co-ordination and senior level commitment. Legislative and technical issues related to this area are complex and require a concerted effort to clarify privacy and security concerns, an important issue for many. There are a number of other challenges relating to issues of equity, service design, accountability, training, and organizational structures.

Opportunities exist for Nova Scotia to take a lead position in the use of e-Government via the application of innovative policies and the provision of strong leadership. The benefits of such an approach are many, and include better, faster and more efficient service to constituents, universality of access regardless of location, more cost-effective delivery, the potential to offer new services across organizational boundaries, and growth of the economy by taking a leadership position in this sector.

Recommendations of the committee fall into three areas:

1. **Leadership.** A strong and clear position of leadership from the highest levels of government regarding what will (and will not) be possible to accomplish via e-Government within the Province of Nova Scotia;
2. **Clear assignment of lead responsibilities.** Formally address the issues of responsibility, accountability and coordination for corporate e-government policy and leadership by placing responsibility and ownership in the hands of an appropriate body or bodies; and
3. **Action.** An e-Government strategy which provides the appropriate policy framework, addresses current impediments (in areas of policy, standards, legal issues, technology infrastructure and training) and encourages all departments to take full advantage of the potential of electronic technology in the delivery of their programs and services. The strategy should set priorities for action and identify the investment (time and resources) required to address these priorities.

Introduction

The explosive growth in electronic commerce in the recent past has fundamentally changed the nature of the economy in North America. Innovators within the private sector have embraced this revolution to deliver new services to the public, or to provide existing services in new ways. The growth in the sector is approaching exponential levels and shows little evidence of slowing.

Governments generally have been cautious in embracing any new technology, and this holds true in this instance as well. However, these new technologies offer vast potential to fundamentally transform the ways in which government interacts with its constituents. "e-Government" offers the same potential benefits as seen in the use of similar technologies by the private sector -- improved service delivery, innovative new services, and increased revenue from value-added initiatives, among others. Governments face unique challenges and constraints not seen by the private sector, however -- privacy issues, legislative limitations, and questions of equity in access. They also face some of the same challenges that need to be overcome by any organization attempting to adapt the ways in which it serves its clients -- organizational inertia, resistance to change, and difficulty identifying the consequences of such change.

This paper is an attempt to provide an overview of the existing use of e-Government and e-Commerce within the Province of Nova Scotia, to provide some insight into its potential for changing the way government interacts with the citizens of Nova Scotia, to explore some of the challenges and limitations facing those who wish to move such initiatives forward, and to offer recommendations for future development. It is not intended to be a comprehensive analysis; however, it does offer an accurate representation of the current situation.

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A. Context and Definitions

What is e-Government? How is it different from e-Commerce? Many definitions are available, and all are valid in certain circumstances. For the purposes of this paper, the following offer a useful common ground.

- e-*:
Using the Internet and its underlying technologies to automate interactions between people and organizations. It does not generally refer to internal automation. These technologies include:
- e-Business:
Conducting business activities using Internet technologies. Most commonly used in business to business transactions such as streamlining business and financial processes, sharing individual and corporate information enterprise-wide, and video conferencing.
- e-Commerce:
This term is commonly used to refer to any activity using the Internet that has a financial component. It most commonly refers to retail transactions conducted over the Internet through Web sites, but can include transactions conducted by wireless device, e-mail and machine to machine transactions.
- e-Government:
The provision of government services through Internet technology such as the use of Websites and e-mail; enabling of file transfers electronically between business and government as well as government to government; and broadcasting, scoped narrowly or broadly, to allow real-time collaboration or otherwise of people in geographically separate locations.

B. Benefits of e-Government/e-Commerce

At first glance, the benefits of these technologies appear obvious -- the ability to offer services more quickly, more conveniently, and universally. Fundamentally, e-Government presents real opportunities to transform government operations and service delivery, to provide citizen-focused delivery of government services, and to bring government conveniently to the citizen's home or office. Benefits for both the economy as a whole, and for citizens and government alike have been categorized below.

1. more accessible information and services:
 - removes distance as a factor in service delivery
 - provides access from home or office
 - increased public access sites
 - enables expanded service hours -- possibly even 24 X 7
2. speedier service:
 - reduced or eliminated travel times

- more efficient processing/turnaround time
 - more streamlined for citizen; e.g. advise of address change once & all departmental databases are updated
 - red tape reduction -- electronic service delivery will cause pressure to re-think the requirements for many registrations / licenses, and may provide opportunities to eliminate some.
3. improved effectiveness:
- reduced costs to operate (fewer staff, reduced overhead costs)
 - increased efficiency within government (e-mail, Intranet, web-based research)
 - sharing of information across government
 - speed of information transfer across government
 - citizen-centered service rather than government (or department) -centered; can break down departmental silos
 - catalyst for partnerships with other governments or organizations
 - one common electronic service window for citizens regardless of the department responsible while data & program expertise can be resident in multiple agencies
4. possible new services:
- interactive services, e.g. interactive vacation planning for tourists
 - multi-department transactions
 - interactive/on-line citizen input into policy development
 - customer self-service -- electronic delivery of many government services (ie. licenses, permits, training, benefits) directly to clients
5. potential to foster a climate of e-commerce in Nova Scotia:
- government can act as a model user
 - policy measures to encourage knowledge & use of technology within NS
 - leverage spending & investments in program areas

C. Challenges of e-Government/e-Commerce

While it is tempting to move quickly into the "brave new world" of e-Government, it is not without its own set of unique challenges and perils. It is important to understand that governments everywhere have, so far, barely scratched the surface of these technologies. Lessons learned in the private sector can be applied to governments, but governments also have their own unique set of expectations and responsibilities that must be considered as well. The following are those issues to which governments must pay particular attention when considering implementation of e-Government services.

1. equity:
- not all citizens have access to a computer, are comfortable with, or able to use a computer to access government information and/or services
 - age divide – individuals over 60 years of age are less likely to be comfortable with electronic access

- urban/rural divide – residents of rural areas tend to have less access to electronic technology
2. privacy & security concerns:
 - efficiency is driven by re-using data captured once and by linking data, e.g. use of data for purpose other than that for which it was collected
 - security of data and systems can be problematic
 - perception of insecurity using Internet technologies for private information
 - "big brother" syndrome possible
 3. training/education
 - both staff and citizens need to understand what is and is not possible
 - policy-makers need to understand implications when designing new services
 - staff inexperienced in application and use of new technologies
 4. accountability
 - networked delivery blurs accountability lines
 - possible to pass blame to the technology for poorly-conceived service delivery models
 - new technologies require a comprehensive business case, funding strategies and a re-thinking of the service delivery model -- not just technology for it's own sake
 - tracking of usage and uptake to understand the results of new service models
 5. technology
 - challenges to move data across multiple platforms
 - requires commitment to technology investment and refresh
 - expertise required not currently available within government
 6. client/government relationship
 - a whole new perspective on the "faceless" bureaucrat
 - potential for abuse/misuse on both sides
 7. nature of service
 - service needs to be "closed loop" -- difficult to hand-off for exceptional cases or unclear situations
 - service offering must work seamlessly and conveniently to encourage uptake
 - some services may be inappropriate to deliver electronically

D. e-Government/e-Commerce Activities within the Government of Nova Scotia

In spite of the relative newness of these technologies, there are a surprisingly large number of individual initiatives either completed or underway. These cover a variety of approaches, from basic information access to full-scale interactive transaction processing. In addition there are a number of policy initiatives in support of e-Government underway. These are categorized and outlined below.

In reviewing the following, it should be noted that a complete inventory of such activities has not been attempted. Those noted here are intended to be representative of the types of initiatives underway, and are in many ways some of the most visible or successful. It should be noted that this technology is pervasive and a comprehensive inventory would provide a snapshot that would, at best, be momentarily accurate.

1) Policy Activities

- **Business & Technology Strategy** Underway
 - Lead Agency: TSS, with cross government participation
 - To develop a strategy to enable government to use technology & information to support and advance the government's business vision, including recommendations on governance/accountability, organization model, policy & standards, and methods & tools.
 - To be completed for consideration by government.
- **E - SAP** Underway
 - Lead Agency: Finance
 - To build a vision and business case to utilize SAP as the financial management software across the broad public sector (MASH). The potential for use of the Internet is being explored to facilitate a single point of contact on procurement and financial processes between businesses, the provincial government and the MASH sector.
 - Business case may lead to project approval for implementation over several years.
- **E-Government Security Framework** Proposed
 - Lead Agency: TSS, with an interdepartmental team
 - To set the policy, organization and technology framework to enable government to conduct business in a secure manner via the Internet, facilitating business to customer and business to business interactions.

2) Legislative Framework - Existing

- Federal Personal Information Protection and Electronic Documents Act
- Provincial Freedom of Information and Protection of Privacy Act
- Provincial Business Electronic Filing Act
- Government Records Act (that Act recognizes that government records are government records whether electronic or otherwise)
- elements of various other provincial acts to protect personal information held by

- government
- there are several relevant Court Decisions and decisions by the Provincial Review Officer which affect e-Government
- recognition in a large number of provincial acts of an electronic environment to carry on a function whether it currently exists or not

3) Contractual Activities

- Atlantic Canada On-line Agreement
 - signed in 1996 by four Atlantic Provinces and Unisys Canada
 - purpose to enable electronic access to provincial databases
 - several provincial programs and services are delivered through ACOL
 - agreement has lead to creation of approximately 50 IT jobs in Nova Scotia
 - agreement is under review by the four provinces
- Numerous licensing agreements, service delivery contracts, software development contracts, operating agreements, long-term partnerships, outsourcing arrangements

4) Web-sites

- All departments have web-sites
- Communications Nova Scotia leading the process to ensure all web-sites have common look & feel
- Extensive use of web-sites to make public documents accessible
- Program Information
 - All departments have program information available on Web
 - Policy Information
 - e.g. Provincial Land Use Policy Statements & Mapping (HMA)
- Searchable databases
 - Registry of Joint Stock Companies (BCS)
 - Permits, Approvals and Licenses (BCS)
- Use of web-site/email connections to facilitate public feedback
 - Registry 2000 Discussion Document web-site set up to facilitate consultation on reform initiatives (HMA)
- Growing use of internal web-sites (government Intranet) to enable collaboration across departments and across locations
 - use of Intranet site for Program Analysis process to provide information, elicit feedback from government employees, and post responses (P&P)
- Use of web-site for marketing
 - ExploreNS.com – on-line access to tourism information and interactive capability for information requests and feedback (T&C)
 - NS Centre for Craft and Design web site – to promote the centre and its programs (future plans to provide on-line registration for classes and on-line sales)
 - Capability to book trade missions, calculate labour costs in Nova Scotia for each

sector, and access private sector testimonials on Nova Scotia's competitive advantage on video (Economic Development)

- Use of web-site for educational & tourism purposes
 - NS Museum web-site – one of the largest and comprehensive museum web-sites in Canada – includes searchable directory to museums and on-line publication of documents – includes on-line events and program listings for all NS museums (T&C)

5) Electronic transfers between government and client (citizen or business)

- Access to public records via the Internet
 - NS Property Records On-line – a subscriber service to access the property records database via the users' desktop; generates net revenues of approx. \$125,000 annually.
 - Driver Abstracts – subscription service to order driver records
 - NS Bookstore – on-line order service for government publications
 - NS Labour Database search
 - NS Employment Opportunities search
 - Student Aid On-line - potential student aid clients can submit their applications on-line and receive updates on the status of their application.
 - NS Regulations CD-Rom and sale of other Registry publications - advertising the CD-ROM and providing convenient methods for users to order subscriptions of this and other Registry publications (such as the Royal Gazette and individual consolidated regulations) via the website. The availability of the text of regulations on the Internet has provided free access to Nova Scotia's regulations to the general public and has also considerably reduced demand on the Registry for hard copies of regulations. There has been some interest in seeing the Royal Gazette online, but despite the fact that the Registry of Regulations would continue to offer a hardcopy publication, concerns surrounding the Evidence Act and the requirement to be printed by the Queen's printer are still considered an obstacle.
- Submission of license, permit and registration forms electronically
 - NS Personal Property Registry – a subscriber service to register and search interests against personal property electronically ("paperless" by Jan., 2001). Development cost: approximately \$1.5 Million; and generates almost \$4.5 Million annually (net) via ACOL.
 - Registry of Joint Stock Companies – law firms have on-line access to process transactions
 - NS Business Registry – on-line registration for Registry of Joint Stock Companies, WCB and a set of BCS licenses, fully integrated with Revenue Canada (scheduled for Fall 2000)
 - NS Property Records On-line – on-line access to topographic data (scheduled for Fall 2000)

6) Electronic transfers between government departments

- Access to information
 - Procurement Standing Offer Intranet Site – to enable departments to access information on standing offer capabilities, procurement guidelines, procurement forms (Finance)
 - NS Archives and Records Management Intranet Site – to enable departments to document records management policies/standards, and provide a source for management of government wide records management projects (T&C)

7) Electronic transfers between government and other governments

- With municipal government
 - Collection of municipal deed transfer tax at provincial registry counters, with electronic funds transfer to forward money collected back to the municipal government
- With federal government
 - NS Business Registry – real-time connection to Revenue Canada for assigning the business number to provincial clients

8) Broadcasting / Real-time collaboration

- Increasing use of Intranet sites as interactive tool for teams working on common projects to reduce requirements for face-to-face meetings
- Proposal to broadcast audio of daily Question Period via government web-site
- Use of video-conferencing, e.g. NS Business Registry project uses video conferencing for teams located in Halifax and Ottawa to avoid travel costs

9) Infrastructure Development

- IWAN Initiative Underway
 - Lead Agency: TSS
 - To provide the wired and wireless network across the province
- Ednet Underway
 - Lead Agency: Education
 - Extensive networking of educational institutions to provide access to the Internet for teaching and administrative purposes
- Municipal Access to Internet
 - Lead agency: HMA
 - Financial support to municipal governments to enable small municipal governments to acquire Internet access
- Community Access Program Underway
 - Lead Agency: TSS

- An Industry Canada program managed and co-funded by TSS through a formal \$8 million Federal/Provincial Agreement, designed to provide equitable Internet access for all Nova Scotians through a Provincial network of community owned and managed sites providing public access to the Internet in all Nova Scotia communities with populations of 500 and greater and targeting the establishment of 240 sites in rural communities and urban neighborhoods by March 31, 2001. The Program builds extensively on public library and school facilities already in place.

- Information Economy Initiative
 - Lead Agency: TSS Underway
 - A \$65 million three year Federal/Provincial program of investments beginning in 1998 intended to build the foundations for expansion of the "Information Economy" in Nova Scotia by dramatically enhancing public school information technology infrastructures (i.e. computers for schools) and teacher IT skills for learning and teaching; creating a substantial E-Commerce and IT development research, development and innovation capacity in Nova Scotia universities; helping communities build local IT awareness, capabilities and skills throughout the Province; and enhancing university and public sector high speed, broad band networks available in Nova Scotia.

- Labour Market Development Agreement
 - Lead Agency: Economic Development Underway
 - A \$5 million per year commitment by Human Resources Development Canada to invest in the enhancement of IT skills of citizens in communities and small businesses located in rural and underdeveloped urban areas throughout Nova Scotia.

- Smart Communities Program
 - Lead Agency: Economic Development Underway
 - Supporting and funding early smart community development initiatives in Nova Scotia, developing links with and supporting the six Nova Scotia communities/regions competing for the \$5 million Industry Canada Smart Community pilot project for Nova Scotia and developing opportunities to build smart community capacities and linkages with the Nova Scotia Smart Communities applicants to Provincial E-Government and E-Commerce programs and priorities.

E. E-Government Opportunities

From the foregoing one can see the large number of initiatives underway throughout the Government of Nova Scotia relating to e-Government. It should also be apparent, strong leadership, a clear commitment from government to their success, and a level of overall coordination and strategic investment which could greatly expand the application of this technology to the benefit of Nova Scotians.

There are opportunities for government to take action to become a leader in e-Government. Other governments are moving aggressively to adopt this technology. The Government of Canada has made clear statements at senior levels of government that e-Government is a priority for them, and has committed resources to ensure that Canadians are connected to their federal government. Without an already-entrenched approach or a large, inflexible bureaucracy already in place, Nova Scotia is free to establish a vision and adopt policies to take a leadership position in e-Government. The opportunities are outlined at a high level below.

- **Opportunity for technology leadership and development of an overall strategy** (ie. champions inside government, economic strategy that emphasizes e-Commerce, use of technologies to transform government operations and structures)
- **Opportunity for economic development and competitiveness** (ie. encouraging small business online, attracting innovative anchor firms to invest, projects such as the business registry and land registration online)
- **Opportunity for policy leadership** (ie. positive tax and regulatory environment, privacy and security policies, government as a model user)
- **Opportunity for online services and web presence** (ie. government services online, comprehensive web presence) The challenge here is less technological and much more that of a restructuring or change of corporate culture.
- **Opportunity for Branding** (ie. putting the power of Brand Nova Scotia behind business competitiveness in international markets, a Nova Scotia web portal)
- **Opportunity for Education** - (ie. distance learning, innovative approaches to education, non-traditional learning)
- **Opportunity for Community building** - (telemedicine, community networks, libraries and reference info online, seniors programs, volunteers, rural competitiveness)
- **Opportunity for E-voting and democracy** -(ie. transparent government, voting online)
- **Opportunity for building Internet access infrastructure** (community access program, libraries and schools online, infrastructure investments)

F. e-Government Legal Review

Identifying and understanding legal commitments, constraints, and our current legal environment is a critical component to consider when preparing a framework for a corporate e-Government strategy. Following are a number of legal issues as well as a short description of their current or potential impact.

1. Contractual Commitments

Across the departments and agencies of government there is a proliferation of contracts which have been executed, and which bind the provincial Crown, to implement aspects of information technology from licensing agreements through service delivery and software development contracts, to personal services contracts, operating agreements, long term ongoing partnership and outsourcing arrangements, etc. Although these "contracts" so called vary in subject matter, duration, scope, governance and monetary value, they are a significant component in the current legal environment and one which requires close scrutiny as far as the restrictions imposed by such legal commitments will impact on e-Commerce strategy.

A full inventory should be compiled of all information technology related contracts currently in force (a more narrowly scoped description of the contracts would identify ones particularly of relevance to e-Commerce/e-Government) or under consideration or negotiation in order to "map the landscape" to give government information on its commitments and to enable assessment of how these contracts constrain or empower government.

2. ACOL Agreement

In 1996 the four Atlantic Provinces executed an agreement called the Master Strategic Alliance Agreement (which included an Access Agreement and form of Schedule to be used to bring contracted services under ACOL) with Unisys Canada, Inc. The high level purpose of the Agreement was to enable delivery by ACOL of electronic access to provincial databases, more efficiently and cost effectively than the Province could do.

Presently there is a review of the ACOL Agreement ongoing and spearheaded by Business and Consumer Services. This review is critical insofar as renewal of the ACOL Agreement is automatic for a further three year term unless terminated. The province needs to evaluate this arrangement to determine whether it has met its objectives, whether it requires changes and if so in which respects. We need to have a clear view on whether Nova Scotia should remain in a regional initiative or go it alone with ACOL. A negotiation with Unisys will be required since Nova Scotia cannot amend the ACOL Agreement unilaterally.

3. Personal Information Protection and Electronic Documents Act (formerly Bill C-6)

This federal statute received Royal Assent on April 13, 2000. Parts 2-4 of the Act addressing electronic commerce came into force on May 1, 2000 and the privacy provisions are expected to come into force on January 1, 2001.

By enacting this legislation, the federal government has put in place a critical element of Canada's Electronic Commerce Strategy and meets the federal government's commitments announced by the Prime Minister in October 1998. The new law addresses privacy of personal information in the commercial environment and electronic documentation issues.

a) Personal Information

The federal *Personal Information Protection and Electronic Documents Act* is designed to protect the personal information of individuals when it enters the commercial sphere in Canada. It will help to build trust in electronic commerce with its assurance of protection for personal information in digital form. It creates a level playing field for business with clear, predictable rules for all. This Act's privacy provisions are based on CSA International's *Model Code for the Protection of Personal Information*, developed and recognized by both business and consumers as a standard for privacy protection.

After a one-year transition period, the law would apply to customer or employee personal information involved in commercial activity (the definition in Bill C-6 of "commercial activity" is ".....any particular transaction, act or conduct or any regular course of conduct that is of a commercial character"), but it presents challenges in determining the applicability of the legislation to certain types of activity in federally regulated industries (e.g. telecommunications, broadcasting, banking, and interprovincial transportation). It would also apply to organizations that in the course of their commercial operations send personal information across provincial or international boundaries, for example, credit reporting agencies, insurance companies, and direct marketing firms. It would not cover personal information collected, used, or disclosed for non-commercial purposes (e.g. health care providers) but would likely catch IT firms handling personal information for government.

Bill C-6 specifies that if a Province does not pass similar legislation within three years to cover all personal information collected, used, or disclosed within a province during the course of commercial activity, the federal law would govern even if a federally regulated company were not involved. This last point is key for the Nova Scotia government, in its decisions on the future approach to the collection, use, and disclosure of personal information in the private and public sector within the province.

As well, there is the key point of harmonization of potential privacy laws for the protection of personal information across Canada or just within the Atlantic Provinces.

b) Electronic Documentation

The new law will work to encourage on-line connectedness of Canadians - to each other, to business and to federal government. Consumers and business will be able to conduct their on-line transactions with the confidence that privacy protection measures are in place and that they will be overseen by the Privacy Commissioner.

The new law also provides a way to adapt existing federal statutes and regulations to be compatible with an electronic environment. The act provides for the use of electronic forms and electronic payments as alternatives to existing paper-based methods of dealing with government. By providing for the electronic option of doing business with federal government, this new law takes Canada from reliance on paper and encourages the use and recognition of electronic documents and signatures.

These parts of the federal legislation which create an electronic alternative for doing business with the federal government pertain to secure electronic signature, government going on-line and electronic evidence.

4. Technology and Electronic Commerce Legal Issues

Advances in technology have provided Nova Scotians not only with increased access to information, but also increased potential vulnerability to exploitation. The Internet has opened up not only greater potential for communications and expanded opportunity for contractual transactions, but also greater possibilities for the use of personal information through such techniques as data mining, and the manipulation of data bases of publicly held personal information.

In short, the "Information Highway" is creating a borderless world. Past studies have shown that on a per capita basis, Nova Scotia is a leader in terms of interest and use of the Internet. Users who purchase items over the Internet are usually required to register with Internet merchants and also provide far more information than is needed in a normal retail transaction. "Cookies" (i.e. electronic tracking devices targeted to users of Internet web sites) are frequently sent to individuals who visit commercial web sites to track their Internet behaviour. "Chat Rooms" provide extensive communication possibilities, but also open the way for Internet marketers to target potential target audiences. There are now also proposals for "smart cards" for use in the financial services area, as well as within governments to provide more efficient access to information and data bases to aid customer services. Encryption technologies appear to provide protection for unauthorized access to personal information, but there are issues around its use as well. All of these activities raise privacy concerns and "electronic legal issues" across a broad spectrum of government and private sector activities.

The conduct of commercial activity in an electric environment raises complex questions as to whether and how our laws developed in a paper based world apply in an electronic one. Nova Scotia as well as other jurisdictions worldwide must address the following kinds of issues not only from the perspective of government itself doing business but from the perspective of its citizens functioning in an electronic environment. Borders are meaningless in an electronic environment hence harmonization of laws nationally and internationally appears inevitable.

Issues (not exhaustive):

Contract Law

- how does the law of contract differ in an electronic environment from a paper based world?
- conflict of laws or trans-jurisdictional issues
- electronic signature/authentication
- unconscionable contracts
- who bears risk of loss-product or service defective or denial of purchase
- caveat emptor?
- host of consumer protection issues

Intellectual Property

- "information is the currency of the 21st century"
- harmonizing laws across borders
- need a new way to deal with copyright in information online

Free Speech/Privacy

- in traditional media versus online
- acceptability based on community but what is a community in an electronic environment?
- personal data protection (Bill c-6)
- personal rights (can someone take a picture of you and put it online?)
- anonymity during contracting on line.

Torts

- are they the same in cyberspace?

Competition Law

- needs to be updated for online

Communications Law

- CRTC - telecommunications vs broadcasters (regulations differ)

International Law

- need to harmonize
- Uniform Law Conference in Canada developing model electronic commerce law

Corporate Law

- electronic filing and shareholder voting.

5. Consumer Protection Legislation

There are a large number of consumer protection statutes, not only in Nova Scotia, but across Canada. However, none were developed originally with electronic commerce in mind. This raises a broad array of issues as to whether new approaches are warranted to ensure that well established principles of consumer protection, and protection of personal privacy, are protected in the new world of electronic commerce.

Consumers now provide particulars of their personal behaviour collected at the time a service is provided, or a transaction is completed. Collection of such details can occur in person, by computer, telephone, or through third parties who may coordinate this activity. By connecting to a world-wide telecommunications network, individuals can work, shop, and conduct business transactions from their home computers. While away from home, individuals can do their banking by car phone, purchase goods without cash or credit card, and communicate without borders.

As part of the boom in electronic commerce, there is also a growing amount of personal information about individuals that is coming into the hands of third parties. This information can identify an individual, a name, an address, a telephone number. While a large amount of this personal information is collected and used to improve service delivery, consumers do have concerns. They include how the personal information is collected, controlled, and used by third parties, and how

they may obtain access to their personal information held by others.

While most, if not all of these issues, will be dealt with in whole, or in part, by the proposed federal legislation (C-6), there remain questions as to whether provincial consumer protection statutes are relevant and adequate for electronic commerce within a Province.

6. Freedom of Information and Protection of Privacy Act

Government held personal information is protected by the *Freedom of Information and Protection of Privacy Act*, as well as other statutes such as the *Motor Vehicle Act*, *Hospitals Act*, *Family and Children's Services Act*, *Social Services Act*, etc. There are numerous review officer reports and recommendations and a few court decisions which are troublesome from a government perspective in an e-Commerce environment insofar as they unduly restrict (most common) the ability of government as the holder of the usually personal information to release it for legitimate purposes or occasionally make government held information too accessible.

It would be useful to analyze the review officer reports and court decisions to determine overall impact of them on e-Commerce in this province. Undoubtedly they pose not only constraints but also opportunities.

G. Economic Development and e-Commerce in Nova Scotia

The state of e-Commerce and Information and Communications Technology in Nova Scotia is a mixture of encouragement and challenge, confounded by the unavailability as yet of truly reliable and comprehensive information.

Economic development in e-Commerce can occur in two kinds of areas: (1) companies who sell their products over the Internet i.e. lobsters, car parts, distance education, etc., usually via a web site; (2) companies who are in the business of e-Commerce and whose product is an e-Commerce application itself i.e. dot.com companies, those that make software and hardware for the Internet.

In the first area, a recent ACOA report entitled "The State of Electronic Commerce in Atlantic Canada" places the region well behind the Canadian average in terms of overall adoption of e-Commerce. However, Nova Scotia (with Alberta and BC) is close to the Canadian average and leads the pack in Atlantic Canada, in terms of SME's who are connected to the Internet and have web sites (followed by New Brunswick, then Newfoundland and PEI).

In the second area, a report prepared by the Nova Scotia Department of Economic Development paints a more cautionary picture. It points to a slowing of growth in some areas of Information and Communications Technology industry development in the province. This places Nova Scotia below the Canadian average and gives some cause for concern.

Summary of Government's Mandate in E-Commerce Development

- facilitating market access and business opportunities, especially for small, medium, and micro enterprises (SME's), on a national and global scale through branding;
- providing educational and skills development resources;
- supporting the rapid deployment of necessary infrastructure
- developing "model use" programs for the dissemination of government information and services using e-Commerce platforms, e.g. for electronic tender processes;
- supporting necessary transitions in the labor force due to technological and industrial transformation; and
- ensuring equity in the availability of opportunities and benefits, in the context of the overall development of Nova Scotia.

Inventory of Current NSED E-Commerce Related Initiatives

- A) *E-Commerce Development Strategy:*** E-Business is Business. A strategy is needed to address the opportunity for the government of Nova Scotia and its partners to assist companies to adopt and become more competitive in electronic commerce. Since the largest costs of adopting online technologies are often in fact those associated with human resources issues, restructuring, training and marketing, this e-Commerce effort must be carried out *within the larger business context*. Since there are several agencies at the federal and provincial levels of government involved in e-Commerce development, the strategy must facilitate collaboration and coordination, clarify mandates, manage shared resources, and targeted efforts.

Responsibility: Strategic Services Division, NSED

Outcomes: Greater returns on stakeholders investments in e-Commerce development through collaboration and a clear action agenda.

- B) *Research into legislative and regulatory barriers*** to rapid e-Commerce adoption and a survey of global best practices in these areas. While this legislative and regulatory reform and innovation is cross jurisdictional there is an imperative that the business and competitiveness view of regulations be clearly represented and understood.

Responsibility: Strategic Services, Investment and Trade Division, NSED

Outcomes: A better, more competitive business climate for e-Commerce

- C) *Ongoing management of relationships with ICT/e-Commerce anchor firms*** such as EDS, Convergys. Knowledge based industries tend to rapidly accelerate growth when they achieve a critical mass or clustering effect. Film is a good example in Nova Scotia. This can be initiated and/or enhanced by the presence of a large, usually globally established anchor company which through its policies and broad reach creates a beneficial procurement environment, strong research agendas, new technologies, spin-off companies, and attracts industry resources to it.

Responsibility :Investment and Trade Division, NSED

Outcomes: More e-Commerce start-ups, cluster development, adoption of new technologies

- D) **Investment recruitment targeting e-Commerce firms** In a relatively small economy, the important presence of an anchor company or the development of a dynamic clustering within a sector, while may on occasion come from within the local economy, must often be achieved through outside investment.

Responsibility Investment and Trade Division

Outcomes - more jobs in e-Commerce, cluster development

- E) **Development of the NSED Web Site** does not strictly qualify as an e-Commerce function, since no transactions occur on the site and there is no exchange of ownership or control of any good. The web site provides a wide range of business and marketing information in the form of text, graphics, audio and video.

A Go-Ahead Agenda

Facilitation of partnerships with federal agencies re. development of e-Commerce initiatives

There are a number of players in the field of e-Commerce provincially and federally - Industry Canada, ACOA, NSED, Information Economy Initiative, ECBC, Business Development Bank and others. A failure to work effectively together compounds the impact of available resources and would create additional barriers to e-Commerce development. Government must be sensitive to this highly competitive business environment and ensure that it maintains agility, the ability to change direction quickly, and sufficient wisdom to get out of the way when necessary.

The adoption of e-Commerce across the economy represents opportunities for government to play an economic development role in the following three areas:

1. Government as Model User - Government can make information available on-line to create specific commercial opportunities for the private sector (ie. ACOL, Business and Land Registries) but also to signal to the private sector that digital technologies and online business models are reliable and trustworthy. This can contribute to earlier SME adoption of new technologies and a building of relative competitive advantage. Research shows that a lack of confidence, awareness, and trust are among the primary barriers for small companies.

Procurement is an important area of government leadership. Raising the level of both standards and practices of electronic procurement forces early adoption by suppliers of both the technology and innovative business models such as virtual corporations and alliances, where companies collaborate in order to deliver new goods and services otherwise beyond their scope individually.

2. Industrial Benefits - Besides being more aware of the opportunities its procurement represents for individual companies and consortia, government agencies can work with large buyers in the region to facilitate better supply chain management, competitiveness of local companies, and more effective procurement practices. In Scotland and Alberta, as the energy sector has matured, it has been used to drive the emergence of a strong information and communications technology cluster.

This should be one of the priorities for Nova Scotia as it goes forward with its energy agenda.

3. Acceleration of Economic Development Aspects of E-Commerce

a) Availability of early participative capital - government can help to develop the conditions under which venture capital activities flourish. Nova Scotia companies need more "smart money" or expertise driven capital investment both from within the province and from other sources.

b) Branding in e-Commerce - Branding is a necessary tool of e-Commerce where there is huge competition for the attention of the customer and one where issues of trust and reassurance present barriers to business competitiveness and success. Nova Scotia has a brand recognition and credibility in key markets that can by association enhance the competitiveness of the private sector and open doors in established and new markets. Several branding initiatives are underway in Canada (Industry Canada pilot projects in Texas and New England). ACOA is exploring the possibility of creating a "Brand Atlantic", while a Brand Nova Scotia portal is in the evaluation stage.

c) The attraction of key anchor companies - The question of government's role in direct foreign investment and the best approach to take in attracting anchor companies is under discussion in Nova Scotia, but in many parts of the world it remains an important tool of economic development. The carefully planned and implemented attraction of anchor companies that support indigenous industry development and represent strategic commercial infrastructure, though not without inevitable risks, can jump-start innovation and business start-ups and is a fundamental tool in cluster development.

d) Cluster "engineering" - Clusters are groups of complementary, competing, and interdependent industries that drive wealth creation in a region, primarily through export of goods and services. An industry cluster is different from the classic definition of industry sectors because it represents the entire value chain of a broadly-defined industry from suppliers to end products, including supporting services and specialized infrastructure.

Clusters cannot be "engineered" as such, but can be enhanced, encouraged and their growth accelerated through judicious and timely intervention. This is the proper mandate of government, NGO's and industry organizations. Plans and strategies must be prepared for the identification of existing and potential Nova Scotia industry clusters, their prospects for growth, and resource requirements.

e) E-Commerce Research and a trained work force. In 1999 Dalhousie University launched an innovative Masters in E-commerce program and the Global Information Network Initiative (GINI), a dot.com (Internet start-up company) incubator. This was funded by the Canada/Nova Scotia Economic Diversification Agreement through IEI, the Nova Scotia Information Economy Initiative which is currently under review and is engaged in planning for the future. A second version of IEI (IEI2) proposes to continue support for the GINI project at Dalhousie as it serves to incubate the new dot.com start-ups which students in the program will establish. Government can have a real impact if it rallies both political and bureaucratic support behind Dalhousie and GINI to win federal designation as an e-Commerce research hub. Funding support should be considered for a proposed e-Commerce diploma program that the Community College system is ready to add to its curriculum.

f) Business Climate Policies - The interests of business and competitiveness must be included and considered as various government departments move forward on a variety of fronts, with legislation and regulation relating to e-Commerce such as privacy, encryption, taxation. A number of issues are of federal jurisdiction but there are also provincial policy reforms necessary. A multi-departmental working group to facilitate this legislative and regulator review would be beneficial to streamlining this process.

g) SME (small/micro enterprise) adoption of e-Commerce Several barriers exist to prevent SME's from the early adoption of e-Commerce. A lack of awareness, knowledge and confidence are important issues. The cost of restructuring, dealing with human resources, marketing and other business issues are usually as great or greater than the technological costs. Other barriers include variance in perceived benefits, level of comfort or literacy, general assertiveness of management, willingness to trust experts, organizational readiness, amount of competitive pressure, influence by major supplier or purchaser, specific industry sector, and a clear perception of return on investment. Government must identify which of these factors it can influence and create appropriate strategies. NSED will hold "e-rallies" (similar to the highly successful "export rallies" conducted around the province to inform prospective exporters) to quickly reach many small and medium sized business owners to educate and inform them regarding the liabilities and benefits of e-Commerce adoption.

h) ICT (Information & Communication Technology) infrastructure development - Nova Scotia is a recognized leader in the area of bandwidth (which measures the size of "pipe" which connects a user to the Internet) and to some extent governs the rate at which information is sent and received. IEI has supported information technology infrastructure in the province and is currently carrying out consultations and the planning of future undertakings.

Possible Early Wins in E-Commerce Development

- Give formal recognition to an interdepartmental, intergovernmental task force on e-Commerce economic development (currently ad hoc) involving IC, ACOA, NSED, TSS, ECBC.
- Create a Nova Scotia Web "Portal" as a public-private partnership to market Nova Scotia, aggregate the province's web resources for maximum impact, promote the sale of Nova Scotia goods, and recruit expatriate investors and entrepreneurs.
- Rally government support for Dalhousie University's GINI project in a bid to receive federal designation as a Canadian hub for research in e-Commerce.
- Support the N.S. Community College system's proposal to add e-Commerce training to its curriculum.
- Conduct a series of "e-rallies" around the province to promote the wise and timely adoption of e-Commerce in rural areas by small and medium sized businesses.

H. Recommendations

The committee responsible for producing this report has uncovered a significant amount of e-Government activity within the Province of Nova Scotia during its relatively short existence. Reviewing the information contained herein, one can identify a number of issues which must be addressed if Nova Scotia is to profitably employ e-Government technologies in the months and years to come. The committee therefore offers the following recommendations to government:

1. e-Government success requires a strong and clear position of leadership from the highest levels of government regarding what will (and will not) be possible to accomplish via e-Government within the Province of Nova Scotia. Only via such leadership will the message be received at all levels of the organization, resulting in the fundamental change in culture and corporate thinking that this issue requires for success.
2. Leadership can be shown via government formally addressing the issues of responsibility, ownership, accountability, coordination, and service delivery capability for e-government, by placing responsibility in the hands of an appropriate body or bodies. Unlike more traditional government activities, e-Government is a "horizontal" activity that cuts across traditional departmental lines and requires a different approach from the usual model employed by government to address emerging issues. It can best be served, we believe, by a largely non-bureaucratic, non-hierarchical, highly responsive body that cuts across the organization, is resourced appropriately, and has the mandate from the highest level to work with all departments of government to lead such fundamental change. This represents what has worked well for the leaders in these activities in the private sector, and should act as a lesson for government.
3. In the immediate term, government must develop and implement an e-Government strategy to set priorities for action and identify the effort and investment required to address these priorities. This could include, but not be limited to, a thorough review of existing e-Government activities and proposals; costs of e-Government at present; current electronic service delivery capacities both within government and in the Province as a whole; policies relating to security, privacy, and "e-" economic development; existing government contracts and agreements; current and proposed legislation; departmental and corporate business plans; and research into the uses of such technologies elsewhere. The outcome of this review will be a comprehensive statement outlining our current e-Government position, a vision of what the future could be, the gaps keeping us from fully achieving our vision, the areas requiring immediate attention, the costs and benefits of proposed initiatives, and the issues that require an investment of time or resources to achieve success. This can be achieved via a division of responsibilities that sees overall policy responsibility residing at Treasury & Policy Board, technology and infrastructure issues as the responsibility of Transportation & Public Works, service delivery issues as the responsibility of Service Nova Scotia, and issues surrounding the development of an e-economy strategy as the responsibility of Economic Development.

There can be no doubt that the changes in society and in technology that have fueled the explosive development of the "e-world" will continue regardless of any action taken by government. The only question is whether the Government of Nova Scotia will attempt to harness this power to help change the way it operates or be left behind in the wake of others who will assume leadership

positions. It is a question that can be answered only if leaders are willing to step forward, assume some risk, and provide the leadership that will move Nova Scotia into the 21st century.

Appendix: The Nova Scotia Business Registry Support Proposal

The Department of Business and Consumer Services (BCS -- soon to be part of Service Nova Scotia and Municipal Relations) is presently implementing the Nova Scotia Business Registry (NSBR). The NSBR will provide single-window access for licensing and registration of businesses in Nova Scotia, and is being undertaken in partnership with the Canada Customs and Revenue Agency (CCRA, formerly Revenue Canada), the Workers' Compensation Board (WCB) and the Registry of Joint Stock Companies (RJS). This is an innovative and complex project that is designed to address the issues faced by business in dealing with multiple authorities and is seen as the first step in a comprehensive electronic self-service model for business interaction with government.

The NSBR is being implemented by Unisys Canada Limited and will operate under the Atlantic Canada On-line (ACOL) master agreement. ACOL is a partnership between Unisys and the four Atlantic provinces to deliver government information and services electronically. ACOL was won by Unisys via a competitive proposal call and a master agreement between the company and the four provinces provides for ACOL to be the preferred supplier for a number of information technology services. Several services to individuals and businesses throughout the region are already available as part of ACOL, including the highly successful Nova Scotia Personal Property Registry (NSPPR).

The original plan for NSBR was for BCS to provide technical support for certain aspects of the system that were originally used solely in-house but which have been adapted for use as part of NSBR. This has proven difficult to accomplish for a number of reasons, including:

- extreme difficulty in attracting and retaining qualified technical staff due to high marketplace demand, more attractive work environments elsewhere, and uncompetitive salary structures;
- a subsequent dependence on short-term contractors, leading to difficulty in longer-term workload planning, greater management overhead, and significantly increased cost, estimated at an additional \$1.2 million annually;
- questions as to whether technical support is a core function of the department.

Consequently, BCS has developed a strategy that would see the responsibility for ongoing support of the NSBR contracted to Unisys as part of the services it already delivers under the ACOL agreement. This addresses the above issues and is consistent with other services currently being delivered under the ACOL agreement for other departments and jurisdictions which have proven to be satisfactory, such as NSPPR. It would also allow economies to be achieved in the utilization of technical staff for both development and support, and help to achieve greater critical mass for Unisys' local e-Commerce practice. As simply another schedule to the ACOL master agreement it will not commit the Province to any arrangement beyond the scope or term of that agreement, which is currently being analyzed for renewal by government. In turn, BCS will follow normal alternative service delivery practices by retaining governance responsibilities for the service,

instituting contractor performance benchmarks and objective measurement tools, performing ongoing management of project activities and contract satisfaction, and undertaking periodic reviews of the agreement. This is consistent with overall best management practices in other jurisdictions and will allow BCS to focus its efforts upon its core responsibilities to citizens. In addition, it is consistent with recommendations in this paper that call for a responsive team that is free from bureaucratic constraints and is able to move quickly to address the dynamic nature of e-technology.

At present, costs are estimated at approximately \$2.6 million annually, while original costs were expected to be approximately \$1.4 million annually. Exact costs under any new agreement are undetermined since these can only be finalized via negotiation once exact parameters for service are defined. BCS expects that costs under the proposed arrangement will approximate those forecast when the NSBR project was originally approved. In addition, provisions for transition of current government employees into the new environment will be required in order to contribute to the overall objective of reducing the size of government at minimal pain to staff. It is the intention of BCS to begin negotiations with Unisys once approval in principle of this approach has been obtained, but no contract will be executed unless cost provisions in any new agreement are acceptable to the Minister.

The proposed approach is one which is acceptable to the committee to be used in this and other future e-technology projects. It allows government to focus on its core responsibilities while allowing other partners to perform in areas in which they are more capable, while retaining within government the ability to address issues relating to contractor performance. The committee therefore recommends acceptance of the BCS proposal for approval in principle as outlined above.